

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Status of Claims:

No claims are currently being canceled.

Claims 1, 6, 9, 12 and 15 are currently being amended.

Claims 16 and 17 are currently being added.

This amendment amends and adds claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-17 are now pending in this application.

Note Concerning Claim 15:

Applicant notes with appreciation that claim 15 was not rejected over any art of record. By way of this amendment and reply, claim 15 has been amended to include the features of its base claim and any intervening claims. Thus, claim 15 is now believed to be in allowable form.

Claim Rejections – Prior Art:

In the Office Action, claims 1-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,094,449 to Komatsu in view of U.S. Patent No. 5,490,165 to Blakeney, II et al. These rejections are traversed with respect to the presently pending claims under rejection, for at least the reasons given below.

The Office Action correctly recognizes that Komatsu does not disclose a frequency offset estimating section that estimates frequency offsets of correlation values and power values and demodulation timing data and calculates phase change values from the estimated frequency offsets to output to a search section. However, the Office Action incorrectly asserts that Blakeney teaches these features.

In particular, page 4, lines 1-4 of the Office Action asserts that “It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a

frequency offset estimation in correlation values and power values and demodulation timing data as taught by Blakeney in the apparatus of Komatsu because it can mitigate interference to all signals seeking rapid response and provide improvement in the channel performance.”

Applicant disagrees with this assertion made in the Office Action, since the frequency offset estimator 256 of the demodulator element in Blakeney is much different from the input signal to the frequency offset estimator 11 of the present invention.

In the claimed invention according to claim 1, the frequency offset estimating section receives three different inputs: a) correlation values, b) power values, and c) demodulation timing data, and calculates phase change quantities from these three inputs. In stark contrast, as shown in Figure 2 of Blakeney, his demodulator element 204 does not receive any demodulation timing data, but rather it computes and outputs demodulation timing data based on I and Q data input to the demodulator element.

Because the set of input signals used to estimate a frequency offset is different, the frequency offset estimator 256 of Blakeney is much different from the frequency offset estimator 11 of the presently claimed invention. Accordingly, the presently claimed invention is patentable over the combined teachings of Komatsu and Blakeney. Moreover, either though column 9, lines 54-55 of Blakeney states that “Frequency error estimate is used in a carrier tracking loop (not shown)”, Blakeney does not disclose or suggest that it is used for correction of a correlation value.

Since independent claims 6, 9 and 12 recite similar features to those discussed above with respect to independent claim 1, each of these independent claims is patentable over the combined teachings of Komatsu and Blakeney.

The presently pending dependent claims under rejection are patentable due to their dependence on one of the presently pending independent claims discussed above, as well as for the specific features recited in those dependent claims. For example, claim 3 recites ‘a symbol integrating unit which receives said correlation values output by said correlation unit, and which inversely modulates said symbols with predetermined data and calculates said power values as said in-phase addition values of said symbols values while correcting phases of said symbols based on said phase change quantities provided to said symbol integrating unit by said frequency offset estimating section.’ Dependent claims 5, 11 and 14 recite similar features.

Neither Komatsu nor Blakeney teach or suggest such a symbol integrating unit as recited in claims 3, 5, 11 and 14. Note that Komatsu's symbol integrator 5 receives input directly from a correlator 4, and from no other element. Even if the teachings of Blakeney are combined with Komatsu, that would result in a system in which a Demodulation Element would be provided downstream of Komatsu's symbol integrator 5 (e.g., between his search units 6, 7 and his demodulation path selection unit 8).

Accordingly, dependent claims 3, 5, 11 and 14 are patentable for these additional reasons.

New Claims:

New claims 16 and 17 have been added to recite additional features of the present invention that are believed to provide a separate basis of patentability for these claims.

Conclusion:

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicant believes that the present application is now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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